

Pre-, Post Concept Map Comparison Guide

You will be given your first concept map, the one completed in Stage One, prior to the simulation. This is your pre-Map. The concept map you have just completed is your post-Map.

Concept map terminology. A concept map is a graph consisting of nodes and labeled lines. The nodes correspond to important terms (representing concepts) in a domain. The connecting lines denote a directional relationship between a pair of concepts (nodes). The label on the line (explanation) conveys how the two concepts are related. The combination of two nodes and a labeled line is called a proposition. A proposition is the basic unit of meaning in a concept map and the smallest unit used to judge the validity of the relationship drawn between two concepts. Concept maps, then, represent some important aspects of a person's or team's declarative knowledge in a content domain.

Compare the two concept maps, the map completed before the simulation (the pre-map) and the map just completed (the post-map).

First Comparison. Count the number of common, lost and new nodes.

- Common nodes: The nodes you identify as having the same meaning in the pre- and post-map.
- Lost nodes: The nodes existing **only** in the pre-map.
- New nodes: The nodes that appear only in the post-map.

What conclusions can you draw as a team if there are few common nodes and relatively many lost and new nodes? Or few lost and new nodes and a relatively large number of common nodes?

Second Comparison. Count the number of levels and nodes per level on each map

Levels. Let the main idea, "Poverty," be Level 0. Nodes linked directly to the main idea are Level 1 nodes. Level 2 occurs when there are nodes linked directly to Level 1 nodes. Successive levels occur similarly. Level 3 occurs when there are nodes linked directly to Level 2 nodes. Level 4 occurs when there are nodes linked directly to Level 3 nodes. And so on

Create a table comparing the number of entries (nodes) per level of the pre-map with the post-map. It will look like

Level	Pre-Map Number of Entries (Nodes)	Post-Map Number of Entries (Nodes)	% Growth [(Post # - Pre #)/Pre #] * 100
1	5	9	80.0%
2	8	9	12.5%
3	1	5	400.0%
4	--	4	300.0%
5	--	--	--
Total	14	26	85.7%

What conclusions can you draw if there are more entries (nodes) in the post-Map than in the pre-Map? Or if they are the same, or there are less? What about the total number of nodes in each map? What about the number of nodes per level? Any changes?

A Deeper Dive. An individual concept map may be judged by its *propositions, hierarchy, cross links, and examples*. (From p. 36, Novak & Gowin, 1984, *Learning How to Learn*.)

- **Propositions.** Is the meaning relationship between two concepts indicated by the connecting line and linking word(s)? Is the relationship valid?
- **Hierarchy.** Does the map show hierarchy? Is each subordinate concept more specific and

less general than the concept drawn above it?

- **Cross links.** Does the map show meaningful connections between one segment of the concept hierarchy and another segment? Is the relationship shown significant and valid?
- **Examples.** Are there specific events or objects that are valid instances of those designated by the concept label?